

REMARKS

Status

Claims 1-27 were originally filed. By the present amendment, claim 10 has been canceled and new claim 28 has been added. Accordingly, it is now claims 1-9 and 11-28 which are at issue.

The Office Action

In the Office Action mailed March 18, 2005, claims 1-27 were rejected under 35 U.S.C. §112, second paragraph. In addition, claims 1, 3-9, 11, 13, 15-25 and 27 were rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent 4,452,711 of Laemmle in combination with U.S. Patent 4,107,060 of Schick and/or U.S. Patent 4,925,582 of Bennett. In addition, claims 1, 3-9, 11, 13, 15-25 and 27 were rejected under 35 U.S.C. §103 as being unpatentable over U.S. Patent 4,781,848 of Biresaw in combination with the '060 and/or the '582 patent.

Applicant thanks the Examiner for the search, the Office Action, and the thorough explanation of the basis of the rejections.

The Present Invention

Applicant will briefly recapitulate the principles of the present invention. The present invention is directed to a metalworking fluid which may be advantageously employed for the machining of alloys containing lead and other heavy metals. In addition to being water based, the fluid of the present invention is free of fatty acids which could react with lead or other heavy metal so as to form undesirable soap deposits in the metalworking and fluid delivery systems. Also, the compositions of the present invention have been formulated so as to be non-corrosive to metals including lead, aluminum and zinc. As detailed in the application, and as is set forth in the claims, the metalworking fluids of the present invention employ a unique combination of

water-soluble lubricants, surfactants and ancillary ingredients such as biocides and corrosion inhibitors.

The Rejection Under 35 U.S.C. §112

Claims 1-27 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite. It is the Examiner's opinion that the terms "polyalkylene glycol," "polyglycol surfactant" and "polyol surfactant" are not mutually exclusive, and hence the language of the claims is indefinite.

Applicant acknowledges that while such terms do define specific groups of material in the chemical arts, these terms are often used imprecisely, and Applicant thanks the Examiner for pointing out this possible source of ambiguity in the claims. Applicant respectfully submits that in view of the clarifying amendments to the claims, the specification as originally filed, and these remarks, this rejection has been overcome.

The polyalkylene glycol component used in the formulation of the present invention is water soluble and provides a lubricating function to the composition thereby obviating the need to include fatty acid lubricants which could cause the formation of soap depositions in reaction with lead or other heavy metals. The specification, for example at page 5, lines 8 and following, makes clear these characteristics of the polyalkylene glycol component. Furthermore, the referred to passage gives many different examples of materials which can be utilized for this component. All claims have now been amended to affirmatively recite that the polyalkylene glycol component is water soluble and is a lubricating agent. In view of these remarks, the amendment, and the original specification, the alkanolamine component is now precisely and particularly described.

As detailed in the specification, the composition includes two different surfactant materials which work in combination to provide superior sequestering performance which

facilitates the removal of oils and other hydrophobic materials from the workpiece and machinery. As such, these two surfactants must differ in activity and function and hence in form. In this regard, see, for example, the passage running from page 6, line 9. As originally filed, the claims describe the first surfactant as being a polyglycol material and the second as a polyol material. As such, the materials are inherently different, since polyglycols must of necessity include a C-O-C linkage, while polyols do not. However, in order to better differentiate the materials, Applicant has specifically recited that the polyglycol surfactant has a composition which differs from that of the polyalkylene glycol, and that the polyol surfactant has a composition which differs from both the polyglycol and the polyalkylene glycol.

The foregoing clarifying amendments were made to independent claims 1, 13 and 22. Hence, the rejection under 35 U.S.C. §112, second paragraph, is overcome with regard to these claims and all claims dependent thereupon.

The Prior Art Based Rejections

Claims 1, 3-9, 11, 13, 15-25 and 27 were rejected under 35 U.S.C. §103 as detailed hereinabove. Claims 2, 10, 12, 14 and 26 were not subject to any prior art based rejections. By the present amendment, independent claims 1, 13 and 22 have all been amended to include the limitation of claim 10 therein. In this regard, those claims all now recite that the fluid is further characterized in that it is free of fatty acids. Accordingly, these claims, and all claims dependent thereupon, are allowable over the prior art of record.

New Claim 28

Applicant presents herewith new claim 28. This claim basically tracks claim 1. It includes the amendments made to claim 1 with regard to clarifying the distinct identities of the lubricant and surfactant components. Claim 28 includes the further limitation of allowable claim

2 therein, and in that regard recites that the fluid includes an isoalkoxy amine oxide. This claim is allowable for the reasons discussed above.

Conclusion

In view of the present amendment and remarks, all claims are allowable and in condition for allowance. Any questions, comments or suggestions the Examiner may have should be directed to the undersigned attorney.

Respectfully submitted,

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